



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,589	09/23/2003	Frank J. Davis	ECT 63962	2426

7590

07/21/2005

Tara L. Pfaeffle  
Pietragallo, Bosick & Gordon  
One Oxford Centre 38th Floor  
301 Grant Street  
Pittsburgh, PA 15219

EXAMINER

HOANG, JOHNNY H

ART UNIT

PAPER NUMBER

3747

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/668,589

Applicant(s)

DAVIS ET AL.

Examiner

Johnny H. Hoang

Art Unit

3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 14-22, 27-29 and 34-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 14-22, 27-29 and 34-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/9/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 44, and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al (US 5,937,800).

Regarding claims 44, the reference of Brown et al discloses the method for enabling a substantially constant total fuel energy rate within a dual fuel engine including the following subject matters: computer readable medium containing instructions which, when executed by a processor (col. 3, lines 1-21), performs a method for operating a multiple fuel engine utilizing a first fuel and a second fuel (see abstract and col. 3, lines 23-30), the method comprising:

a. inputting operating characteristics of an engine system to an electronic control unit (ECM 40);

b. determining governing characteristics for multiple fuel operation based on the operating characteristics (col. 3, lines 31-52) ; and

c. controlling amounts of the first fuel and the second fuel for delivery to the engine based on the governing characteristics (col. 4, lines 15-27).

Regarding claim 45, the reference of Brown et al further discloses a gas pressure sensor (42) and a temperature sensor (43) is provided in gaseous fuel manifold (col. 3, lines 1-21).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9, 14-22, 27-29, and 34-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al in view of Wong (US 6,694,242 B2).

Regarding claim 1, the reference of Brown et al discloses all the claimed limitations as discussed above except the means for communicating with the engine system by a data link.

However, the reference of Wong discloses a dual fuel engine having multiple dedicated controllers connected by a broadband communications link that included the link between the liquid and gaseous fuel controllers (see abstract).

Therefore, It would have been an obvious to one of ordinary skill in the art at the time the invention was made to modify and/or provide the method of Brown et al with the data link between the liquid and gaseous fuel controllers, as taught by Wong in order to provide the new method for delivering liquid fuel and gaseous fuel to the duel fuel engine system.

Regarding claims 2-9, as rejected in claims 44, and 1.

Regarding claims 14-20, as above discussions.

Regarding claims 21, 22, and 27, as rejected in claim 1.

Regarding claims 28, 29, 34-43, as discussed in claim 1.

Art Unit: 3747

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnny H. Hoang whose telephone number is (571) 272-4843. The examiner can normally be reached on Monday - Thursday (7:00Am-5: 30Pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on (571) 272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHH  
July 11, 2005

Johnny H. Hoang  
Examiner  
Art Unit 3747

*Tony M. Argonbright*  
**Tony M. Argonbright**  
Primary Examiner  
Art Unit 3747